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ABSTRACT

Nova Southeastern University (NSU) is constantly striving to expand the concept of the classroom and fulfill the mission of the university, which includes serving the educational needs of employed professionals, regardless of their schedules and distance from the central campus. "Distant learners" include those whose job demands, family responsibilities, and other constraints make traditional educational access unavailable. This paper reviews the various highlights of the history of distance education technologies at NSU, from low to high technology. Distance education at NSU began in 1972 with the use of the telephone and airplanes. In 1983, graduate education programs were offered through interactive electronic telecommunications. Facilitated classrooms, using a combination of audio teleconferencing discussions (including computer augmentation of the audiobridge, such as subgrouping and polling), individual phone calls, and a local facilitator provided a new instructional mode at NSU beginning in 1991. Distance education programs at NSU, operating online on Unix, use regional symposia, campus seminars and institutes, personal computers for online electronic communications, and computer conferencing. The electronic classroom (ECR) program simulates a traditional classroom; the computer screen is split into an instructor's ("blackboard") and a student's window. In 1994, NSU began offering compressed video, an alternative to interactive television (ITV) systems that offers equivalent educational effectiveness at a lower cost, as another mode of interactive, online instruction. (Author/MAS)

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"Employing the Power of Technology to Change the Concept of the Classroom"

A Presentation for the 12th International Conference on Technology and Education (ICTE)

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EMPLOYING THE POWER OF TECHNOLOGY TO CHANGE THE CONCEPT OF THE CLASSROOM

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ABSTRACT

Nova Southeastern University (NSU) is constantly striving to expand the concept of the classroom. For the past 22 years, NSU has successfully implemented a number of techniques to "break down the walls" of the traditional classroom. These have ranged from the use of airplanes and U.S. mail in the early days to revolutionary distance education methods that incorporate the use of the electronic classroom and compressed video. These developments were a result of the University's mission, which calls for serving the educational needs of employed professionals, regardless of their schedules or distance from the central campus. This paper will review the highlights of applying such technologies at NSU, from low tech to high tech.

INTRODUCTION

In recent years, the issue of the availability of educational programs to students, and especially to adult learners, has come to the forefront. Business leaders are concerned that higher education is unlikely "...to move quickly and effectively enough to meet the recurrent, lifelong education and training needs of our increasingly older and diverse population" (Greenburg, 1990). Moore (1988) asserts that it is desirable "... to provide educational access for students who would not have the opportunity to undertake education through residential programs. These 'distant' learners include those whose job demands, family responsibilities, and other time constraints make traditional educational access unavailable" (p. 7).

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Distance education, a term used to describe education delivered away from campus, has been around in one form or another for the last century. However, today's technology, particularly computers, information systems, and telecommunications, have begun to replace the old concept of "extension courses" and other similar off-campus delivery systems. The new and emerging electronic technologies are ideal for the delivery of knowledge to the people rather than bringing the people to the knowledge.

DISTANCE EDUCATION AT NSU

Distance education is a field of education that has grown enormously over the past decade. There is little doubt that the effects of distance education have been in the positive direction; however, little is known about the exact nature of the various interactions of delivery approaches, media systems, and instructional methods. As Moore (1989) points out:

> The weight of evidence that can be gathered from the literature points overwhelmingly to the conclusion that teaching and studying at a distance, especially that which uses interactive electronic telecommunications media, is effective, when effectiveness is measured by the achievement of learning, by the attitudes of students and teachers, and by cost effectiveness. (p. 30)

At NSU, the delivery of graduate programs by distance education began in 1972 using current technology: the telephone and jet planes. In 1983, the University began to offer graduate education programs through interactive electronic telecommunications (i.e., distance education). Online, electronic delivery of instruction was offered in the doctor of arts in information sciences (DAIS) and in the doctor of education in computer education (CED) programs. In 1991, the Child and Youth Studies (CYS) doctoral program adopted many of the distance education techniques used in the DAIS and CED programs to create their own alternative, electronic delivery system known as the "National Cluster."

Facilitated classes, using a combination of audio teleconferencing discussions, individual phone calls, and a local facilitator, provided a new instructional mode at NSU, also beginning in 1991. This included computer augmentation of the audiobridge, such as subgrouping and polling, during the teleconference. In subgrouping, the instructor breaks the class into small groups to discuss topics, one topic per group. The instructor uses the computer keyboard to move from group to group to facilitate discussion. When it is time to bring the whole class together again, the instructor

notifies the audiobridge operator. Polling is another audiobridge discussion tool that allows all students to participate simultaneously. The instructor poses a question and gives the students a choice of responses. The instructor sees the students' responses on the computer screen and initiates discussion based on those responses.

Distance education programs at NSU, operating online on Unix, use regional symposia, campus seminars and institutes, personal computers for online electronic communications, and computer conferencing. Specifically, these programs encompass interactive, online, computer discussions (synchronous and asynchronous) with faculty members; electronic mail conversations; electronic assignment delivery; and online examinations. Much of the work on assignments is done offline by the student and then uploaded to the student's home directory, from which it can be electronically mailed to instructors. An innovation to encourage real time interaction in distance education programs that has been successfully developed at and implemented by NSU is the "electronic classroom."

The electronic classroom (ECR) program simulates a traditional classroom setting, blackboard and all. The ECR can be scheduled and used by faculty to discuss assignments, concepts, controversial issues, or just to hold a "rap session" with students while on line. While in an ECR session, the computer screen is split into an instructor's window (a 16-line "blackboard"), and a 4-line student window. An online tutorial shows first time users how to ask the instructor questions, how to get help, and how to prepare questions in a buffer which they may subsequently display when called on by the instructor.

In 1994, NSU started using compressed video as another mode of interactive, online instruction. Compressed video is an alternative to "high-tech" (and high-cost) interactive television (ITV) systems that offers equivalent educational effectiveness at a lower cost. Two-way audio and video signals may be transmitted to multiple sites. Currently, linked NSU sites are in Florida, Arizona, and Nevada; these have made interstate compressed video instruction possible. Using compressed video, the instructor can teach a "live" class at one site while connected to one or two other classes at distant locations.

CONCLUSION

We have seen a rapid growth in the number of schools and business employing distance education and it is certain that this number will rise exponentially in the future. The largest problem, for NSU as well as for other institutions, is to identify faculty with appropriate training and experience at the graduate level. Since this problem will be

exacerbated in the future, as ever more programs are offered at a distance, we have a niche now that we are well-equipped to fill.

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